

## WP3 – Hum-animal city in Lucca

<p><b>WP Objectives</b></p>	<ul style="list-style-type: none"> <li>• Recognizing the human–animal bond as an urban resource for generating public goods and fostering social inclusion</li> <li>• Piloting a process able to involve municipality and local actors (public, private, NGOs, citizens) in a social innovation process able to establish converging vision on the urban presence of animals (wild, food producing and pets) in a “more-than-human” perspective</li> <li>• Linking participatory processes and institutional innovation by creating an integrated urban hum-animal policy</li> </ul>
<p><b>Problems addressed</b></p>	<p>Improving inclusive health and well-being for vulnerable groups and urban communities by mobilising A-NBS and valorising urban regeneration in a NEB direction. Primary targets of A-NBS interventions: elders, young people, women, families, citizens, businesses, NGOs.</p>
<p><b>Main innovations</b></p>	<ul style="list-style-type: none"> <li>• A-NBS to mobilise animal resources to increase IHW for vulnerable groups and to improve societal urban dialogue and youth inclusion in city planning.</li> <li>• Catalogue of innovative VIS with A-NBS and city planning manuals.</li> <li>• New entrepreneurs operating in animal sector.</li> <li>• Design of a first city with an integrated urban human-animal policy able to increase the provision of public goods in the cities mobilising animals.</li> </ul>
<p><b>Why it matters?</b></p>	<ul style="list-style-type: none"> <li>• Animals (wild, food-producing, pet) are increasingly present in urban life, affecting environmental resources, providing positive impacts on human health and well-being across diverse social groups.</li> <li>• New attention on hum-animal coexistence is also key. Animal integration into cities creates an emerging demand with new opportunities for engagement and innovative urban initiatives in enhancing public good provision for the citizens beside private ownership.</li> </ul>
<p><b>Who benefited?</b></p>	<ul style="list-style-type: none"> <li>• +80 elders in nursing homes benefited from AAI</li> <li>• +24 beneficiaries of the Pet Care service</li> <li>• +360 children of primary and secondary schools involved in educational programs and related families</li> <li>• +300 university students (different levels), also in co-design activities</li> <li>• +3000 citizens using the new infrastructures</li> <li>• +60 stakeholders involved in participatory process and idea making</li> </ul>
<p><b>Key VIS</b></p>	<p>Innovative relational areas and Animal Lines to enhance human-animal interaction. AAI in nursing homes for elders and people with dementia. Pet Care services supporting fragile and vulnerable people. Educational activities promoting participatory hum-animal planning for young generations. Events and societal dialogue across neighbourhoods, supported by A-NBS. New pet-based economic ventures. City pet board game Pet-friendly tourism training initiatives. Chart of services for pets (already experienced at city level green corridors for biodiversity, urban food plan)</p>
<p><b>What changed</b></p>	<ul style="list-style-type: none"> <li>• +10286 m2 of green areas reorganised or transformed</li> <li>• +1960 vulnerable citizens involved in cultural and sport activities</li> <li>• + 30 inclusive activities</li> <li>• + 3000 citizens involved in healthy lifestyle actions</li> </ul>

<b>How we measured impact?</b>	<p>Mixed methods according to the VIS like interviews, focus groups, questionnaires (including validated one), collection of physiological parameters, use of wearable devices (with validated algorithm), ITC monitoring systems for use of spaces and biodiversity monitoring</p>
<b>Governance &amp; sustainability</b>	<p>IN-HUB PPPP models and innovations          Progressive involvement of citizens and groups in local society through Co-design, Co-deployment, Co-management, Co-monitoring methods          Implementation of co-deployment and co-management in line with Italian co-design (co-progettazione) law among municipalities and NGOs          Engagement of public health authorities in the social innovation path          Co-evaluation with citizens and NGO members through FG</p>
<b>Main lessons learnt</b>	<ol style="list-style-type: none"> <li>1. A-NBS provide effective solutions for addressing multiple dimensions of urban life in a regeneration perspective, encompassing social, environmental and economic aspects.</li> <li>2. Animals generate interest across diverse social groups and increasingly play a visible role in urban life.</li> <li>3. A-NBS can be implemented progressively and along multiple pathways, depending on the level of awareness, support, and engagement from the actors involved.</li> <li>4. Participatory processes and institutional innovation are closely interconnected in driving the transition towards an integrated urban hum-animal policy</li> <li>5. The change process unfolds over the medium term and requires clear political guidance and methodological support from skilled people</li> </ol>
<b>Replication &amp; legacy</b>	<p>Upscaling and replication activities organised with municipalities (Rome, Pesaro, Massa-Carrara, Pisa), engagement of regional policymakers in Tuscany (regional government and association of municipalities)          Initial contacts with the national association of municipalities and Italian Senate members supporting the hum-animal city proposal.          Dialogue with private builders, receiving positive feedback; collaboration with national environmental NGOs, such as Legambiente.</p>
<b>Resources</b>	<ul style="list-style-type: none"> <li>• D3.4 -Monitoring and evaluation of VIS for IHW in Lucca. Final report</li> <li>• D3.5 - Upscaling Plan of Lucca Hum-an Smart City</li> <li>• Publications:             <ul style="list-style-type: none"> <li>○ Granai et al., 2022. <a href="https://doi.org/10.3390/su14137956">https://doi.org/10.3390/su14137956</a> ; <a href="https://zenodo.org/records/12667277">https://zenodo.org/records/12667277</a></li> <li>○ Borrelli et al., 2023. doi 10.4454/db.v8i3.163 ; <a href="https://zenodo.org/records/15730226">https://zenodo.org/records/15730226</a></li> <li>○ Borrelli et al., 2023. DOI: 10.4454/db.v9i1 ; <a href="https://zenodo.org/records/16962561">https://zenodo.org/records/16962561</a></li> <li>○ Granai et al., 2024. <a href="https://doi.org/10.3390/ani14050680">https://doi.org/10.3390/ani14050680</a> ; <a href="https://zenodo.org/records/12667309">https://zenodo.org/records/12667309</a></li> <li>○ Di Iacovo &amp; Granai, 2025. <a href="https://zenodo.org/records/17296302">https://zenodo.org/records/17296302</a></li> <li>○ Borrelli et al., 2025. <a href="https://doi.org/10.4454/db.v10i2.192">https://doi.org/10.4454/db.v10i2.192</a> ; <a href="https://zenodo.org/records/15862670">https://zenodo.org/records/15862670</a></li> <li>○ Granai et al., 2025. <a href="https://doi.org/10.11144/Javeriana.cvu18.sihw">https://doi.org/10.11144/Javeriana.cvu18.sihw</a> ; <a href="https://zenodo.org/records/17207132">https://zenodo.org/records/17207132</a></li> <li>○ Granai et al., 2026. <a href="https://doi.org/10.1016/j.cities.2026.106776">https://doi.org/10.1016/j.cities.2026.106776</a></li> </ul> </li> </ul>